1-1-2020

Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana, 2019

Elizabeth Maynard
Purdue University, emaynard@purdue.edu

Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana, 2019

Elizabeth T. Maynard, Purdue University
625 Agriculture Mall Dr., W. Lafayette, IN 47907 emaynard@purdue.edu

Indiana sweet corn for fresh market was harvested from 3,580 acres and 426 farms in 2017 (USDA NASS, 2019a). Indiana ranked 16th among states for production of all sweet corn and produced about 0.6% of the nation's total in 2017 (USDA NASS, 2018). Sweet corn fields for fresh market sales are located throughout the state. In northern Indiana, bicolor corn is most commonly grown. Varieties with improved eating quality are of interest to both producers and consumers. Producers are also interested in yield, ear size, appearance, and agronomic characteristics.

This paper reports on fifteen bicolor, four yellow, and one white supersweet sweet corn entries that were evaluated at the Pinney-Purdue Agricultural Center in Wanatah, Indiana.

Materials and Methods

The trial was conducted on a Tracy sandy loam. The fall 2018 soil test showed 1.4% organic matter, pH 6.5, 68 ppm phosphorus (P), 134 ppm potassium (K), 170 ppm magnesium (Mg), and 550 ppm calcium (Ca). Nitrogen, 40 lb./A N from urea, was broadcast on June 3, 2019. An additional 70 lb./A N from urea ammonium nitrate solution was injected on June 25.

The trial was set up as a randomized complete block design with three replications. Twenty sweet corn entries (Table 1) were assigned to individual plots one row wide (30 inches) by 30 feet long. Corn was seeded June 4, 2019, with a finger pick-up planter set to drop seeds approximately 5 inches apart (41,200 plants per acre) and later thinned to 35 plants per 30-foot row (20,328 plants per acre). For seven cultivars there was not enough seed to use the planter and so those were seeded at the desired spacing using hand-operated jab planters. Two guard rows were planted along the south edge of the experimental area and to the north there were 32 more rows of sweet corn.

Weeds were controlled with acetochlor + atrazine (Fultime NXT®, 2.5 qt./A) applied preplant incorporated on June 3 and mesotrione (Callisto®, 3 oz./A) applied on June 25. About 1/2 inch of irrigation was applied from an overhead boom on July 19 and 29, Aug. 5 and 8.

Emergence was evaluated 7 and 13 days after planting (DAP) and final stand was determined 15 DAP, after thinning. Plant vigor was evaluated 17 DAP and at harvest. Shortly before harvest, plant height and the height from the soil to the middle of the top ear were measured for three plants per plot, and degree of tillering was rated. Each plot was harvested when corn reached marketable stage, in most cases 21 to 22 days after 50% silking. For each plot the weight and number of marketable first ears and number of marketable ears that were top grade or 'fancy' were recorded. Three ears from each plot were selected to evaluate degree of husk cover, husk tightness, degree of tip fill, flag leaf length, average ear diameter and length after husking, and shank length. Overall ear quality was also rated, including attractiveness and uniformity of ears. Three individuals rated flavor and pericarp toughness of an uncooked ear, but only one individual rated all varieties and so only ratings from one person are presented. Rating scales are described in table footnotes.

Quantitative data with equal variance across treatments (P>.05) were analyzed using ANOVA followed by mean separation using Fisher's protected least significant difference at $P \leq 0.05$. When one or two varieties showed a variance of 0 for a particular trait, ANOVA was conducted without those varieties to achieve equal variances. Regression analyses were used to evaluate correlation between mean responses for each entry and mean days to harvest (DAP); r^2 values for linear regressions significant at $P \leq .05$ are reported.

Results and Discussion

The growing season from June 3 to August 25 was close to normal in temperature accumulation: growing degree days (GDD, base 50°F) totaled 1,831, just 2 less than normal. Air temperature averaged 67°F the week of planting, and then dropped to 62°F (7 below normal) and 65°F (6 below normal) the next two weeks before averaging above 75°F the week of June 24 and remaining above normal through the third week of July. Total rainfall from June 3 to August 25 was 7.8 inches, 3.5 inches less than normal. The early season was wet with rainfall June 3-June 30 of 5.1 inches, 1.24 more than normal, falling on soils that were already saturated at planting from rainfall in May. Overhead irrigation prevented crop stress during most of the pollination and ear-filling period. Soil temperature at 4 inches averaged 71°F the week plots were seeded. (USDA NASS, 2019b and Indiana State Climate Office, personal communication)

Corn emerged quickly. By 7 DAP, emergence ranged from 54% to 103% of the estimated number of seeds planted (Table 1). Varieties mentioned by name are bicolor unless otherwise noted. Varieties with emergence 93% or better did not differ significantly from the best (Super Surprise) and included BSS 8021, BSS 37244, Signature XR, and HMX 59BS606. Elle (yellow) and Kate had the lowest emergence, 54% and 63%, respectively. Earlier varieties tended to have a higher percent emergence. Hand versus machine planting did not influence emergence at 7 DAP. The final stand in hand-planted plots averaged 1,825 plants per acre less than in machine-planted plots, because machine-planted plots were seeded at twice the desired stand and then thinned.

Early plant vigor ranged from 3.0 to 8.0 on a scale of 1 (poor) to 9 (excellent) and averaged 4.2 (Table 1). Super Surprise, Signature XR, and BSS 8021 all received ratings of 6.0 or above for early vigor, and Solstice and Apollo were both rated 5.0. Varieties with early vigor ratings of 3.3 or below included Elle (yellow), Enchanted, Rosie, SC 1336 (yellow), and Candice (yellow). Plant vigor ratings near harvest ranged from 3.0 to 8.0 and averaged 6.0 (Table 1). Varieties with ratings of 7.0 or above included Jubilation (yellow), SC 1336 (yellow), Apollo, EX 08767143, Flagler, and Super Surprise.

Plant height ranged from 4.6 to 6.8 feet and averaged 5.2 feet (Table 1). Plants were noticeably shorter than in previous years; in 2017 they averaged 5.9 feet and the shortest was 5.1 feet (Maynard and Bluhm, 2018). This year Apollo was taller than any other variety, followed by Devotion II (white) and Enchanted, both over 5.6 ft. The shortest varieties were 4.9 ft. or less and included Anthem XR II, Candice (yellow), Solstice, Super Surprise, Rosie, and Cumberland. Rosie and Cumberland were among the shortest in 2017, and Cumberland was among the shortest in 2015 (Maynard and Calsoyas, 2016).

Tiller ratings ranged from 1.0 to 3.0 on a scale of 1 (no tillers) to 5 (many tillers tall enough to interfere with harvest) and averaged 1.6. Candice (yellow), Enchanted, Flagler, Jubilation (yellow), Kate, and Rosie consistently received ratings of 1. Kate and Rosie received ratings of 1 in 2017 also.

Results for yield and ear quality are presented in Table 2. Per acre yields have been calculated by multiplying plot yields by the number of plots per acre and probably overestimate expected yield from field scale production. Marketable yield averaged 6.8 tons per acre, 1 ton less than in 2017, and ranged from 5.5 to 8.5 tons per acre. Differences among entries were highly significant. Kate produced the highest weight of marketable ears, 8.5 tons per acre, but not significantly higher than Cumberland, Flagler, Super Surprise, Devotion II (white), EX 08767143, or HMX 59BS606. Kate also produced among the highest tons per acre in 2017, and Cumberland produced among the highest in 2015. Enchanted, Candice (yellow), Solstice, Affection, and BSS 8021 produced between 5.5 and 6.1 tons per acre, significantly lower than the 4 top yielding varieties but not significantly different from one another.

Marketable ear yield in dozens per acre ranged from 1,162, to 1,629 and averaged 1,405. Super Surprise produced the most but did not differ significantly from ten others: Cumberland, Flagler, Apollo, HMX 59BS606, Devotion II, Kate, EX 08767143, BSS 37244, BSS 8021, and Signature XR; all produced more than 1403 dozen per acre. More than in previous years, it appeared that some varieties produced low numbers of marketable ears due to greater incidence of poorly developed ears (short, narrow, with poorly developed flag leaves) that were not considered marketable (data not shown).

The number of fancy ears ranged from 97 to 1,226 dozen per acre and averaged 651, and the percent fancy ranged from 7% to 75% and averaged 45% (data not shown). Differences among entries were highly significant ($P<.0001$). Varieties with at least 55% of ears graded fancy did not differ from Super Surprise at 75% and included Apollo, SC 1336, Anthem XR II, Flagler, Cumberland, EX 08767143, BSS 8021, and HMX 59BS606. Anthem and Cumberland also produced high percentages of fancy ears in 2015 and 2017 trials, and BSS 8021 produced a high percentage of fancy ears in the 2017 trial. Enchanted, Candice (yellow), BSS 37244, Rosie, and Signature XR produced between 7% and 27% fancy ears, significantly lower than those above, but not different from one another. Generally there were fewer fancy ears in this trial than in previous years.

Average weight per ear (including the shank) ranged from 0.70 to 0.95 lb. and averaged 0.81 lb. Differences among entries were highly significant ($P<.0001$). Kate and Jubilation (yellow) had the heaviest ears. Kate was also among the heaviest in 2017. Enchanted, Solstice, BSS 8021, Apollo, and Affection produced the lightest ears, between 0.70 and 0.78 lb.

Ear length ranged from 7.19 to 8.08 inches, and diameter ranged from 1.79 to 2.14 inches. Super Surprise had the longest ears, but did not differ significantly from Elle (yellow), Kate, Affection, Candice (yellow), Solstice, EX 08767143, Jubilation (yellow), BSS 8021, and Cumberland, which were all longer than 7.78 inches. Elle (yellow) and Cumberland also produced among the longest ears in 2017, and EX 08767143 produced among the longest in 2015 and 2014. SC 1336 (yellow), Apollo, Signature XR, and HMX 59BS606 produced the shortest ears, between 7.19 and 7.39 inches. Ears of Rosie were the widest but not significantly wider than ears of Kate or Cumberland. Rosie also had the widest ears in the 2017 trial, and Kate and Cumberland were in the second widest group in that trial. BSS 8021 had the narrowest ears, but not significantly narrower than EX 08767143, Super Surprise, Solstice and Flagler. BSS 8021 was also among the narrowest in the 2017 trial.

Shank length ranged from 2.37 to 5.60 and averaged 4.56 inches. Differences among entries were highly significant ($P<.0001$). Shanks on Super Surprise averaged 5.60 inches, followed by

Kate, Elle (yellow), Apollo, and BSS 8021 which did not differ significantly from one another. BSS 8021 also produced among the longest shanks in 2017, and Kate and Elle produced shanks in the second length group that year. Signature XR had the shortest shanks, 2.37 inches, but shanks of BSS 37244, Enchanted, and Solstice were statistically similar.

Ear height from the soil to mid-ear ranged from 14.2 to 29.9 and averaged 21.2 inches. Ears of Apollo were higher than any other variety, followed by those of Devotion II (white) at 26.9 inches. Affection, Enchanted, EX 08767143, Flagler, and SC 1336 (yellow) had ears at least 23 inches above the soil and did not differ significantly. BSS 37244, BSS 8021, Elle (yellow), Anthem XR II, HMX 59BS606, Candice (yellow), and Jubilation (yellow) had ears 19.8 to 21.7 inches above the ground. Ears of Cumberland, Signature XR, Rosie, Kate, and Super Surprise ranged from 16.3 to 18.2 inches above the ground. Ears of Solstice were the closest to the ground at 14.2 inches. Days to harvest explained 30% of the variation in ear height, with later-harvested varieties producing ears farther off the ground.

Husk cover ratings averaged 3.6 (on a 1 to 5 scale, with 5 best). Super Surprise received the top rating of 4.2, but 11 other varieties with ratings of at least 3.4 (more than 3/4 inch of husk covering the ear tip) did not differ significantly: Cumberland, Flagler, HMX 59BS606, Signature XR, Solstice, Anthem XR II, Affection, Elle (yellow), Enchanted, BSS 8021, and Kate. Candice (yellow) received the lowest rating of 1.8, indicating less than 3/4 inch of husk covering the ear tip. Husk tightness rating ranged from 1.0 to 2.4 on a 3-point scale, and averaged 2.1. Flagler and Jubilation (yellow) received the top ratings of 2.4. Apollo, SC 1336 (yellow), BSS 8021, Devotion II (white), EX 08767143, and Super Surprise all averaged at least 2.1. Varieties with consistently loose husks were rated 1 and included Candice (yellow), Elle (yellow), Enchanted, Rosie, Signature XR, and Solstice; Kate averaged 1.1. In the 2017 trial both Kate and Rosie received a rating of 1.

Tip fill rating ranged from 3.6 to 5.0 and averaged 4.6. Varieties with all sampled ears filled completely to the tip (average rating of 5.0) included Flagler, Jubilation (yellow), Apollo, BSS 8021, Super Surprise, Cumberland, HMX 59BS606, and Enchanted. Cumberland and BSS 8021 received an average rating of 5 in 2017 also. Other varieties with a rating of at least 4.5, indicating that most ears sampled were completely filled to the tip included: Devotion II (white), Anthem XR II, Affection, SC 1336 (yellow), Kate, Signature XR, Solstice, and BSS 37244. Anthem received similar or better ratings in 2017 and 2015. Candice (yellow), Rosie, and Elle (yellow) averaged 3.6-3.8, indicating some ears with more than 1/2 inch unfilled at the tip.

Overall ear quality rating ranged from 2.7 to 8.0 and averaged 5.3 on a 9-point scale. Super Surprise, Flagler, HMX 59BS606 and Kate received ratings of 7 or better. Varieties with ratings of 6 or better included Cumberland, Anthem XR II, Apollo, Jubilation (yellow), and SC 1336 (yellow). In 2017 Anthem, Cumberland and Kate all rated above the trial average. Varieties with ratings from 4.0 to 5.7 included Affection, BSS 37244, Elle (yellow), Rosie, Devotion II (white), BSS 8021, and EX 08767143. Rosie was also rated slighted below average in 2017. Varieties with ratings below 4.0 included Signature XR, Enchanted, Solstice, and Candice (yellow), which received the lowest rating.

Table 1 presents flavor and pericarp toughness ratings as the range for three replications of each variety. Solstice, Affection and Rosie received flavor ratings of excellent or excellent to very good, and pericarp toughness ratings of not tough or not tough to somewhat tough. Rosie was also among the top for flavor in 2017. Kate, Signature XR, Candice (yellow), and Elle (yellow)

were rated very good or very good to excellent for flavor. Kate and Elle received the highest ratings for flavor in 2017. Signature XR was rated not tough to somewhat tough this year, but Kate, Candice and Elle (both yellow) received variable ratings for toughness, from not tough to tough. Flavor ratings for the remaining varieties ranged from medium to very good, good to very good, and good to excellent. Among these, the least tough included Cumberland, Flagler, HMX 59BS606, all rated as not tough to somewhat tough, and Anthem XR II and Super Surprise, rated as somewhat tough. Apollo, BSS 37244, Enchanted, EX 08767143, and SC 1336 (yellow) received intermediate toughness ratings. BSS 8021, Jubilation (yellow), and Devotion II (white) were rated as the toughest, with ratings of tough to very tough or very tough to tough. BSS 8021 received a similar rating for toughness in 2017.

The four bicolor varieties with the earliest expected maturities (70-74 days) were Solstice, Signature XR, Rosie, and Anthem XR II. Marketable yields in dozens and tons per acre were similar. Anthem XR II stood out in terms of ear appearance, as indicated by the overall rating and high percentage of fancy ears, and had ears higher above the ground than the other three, but eating quality was not rated quite as high as the others. Rosie was notable for wide, blunt ears, acceptable tip fill and husk cover and loose husks. Signature XR demonstrated high emergence, better early vigor, taller plants than the other three, short ears with very good tip fill, acceptable husk cover, loose husks, and very short shanks. Solstice was harvested the earliest in the trial and ears stood out for being long and narrow, closest to the ground, with short shanks, very good tip fill, acceptable husk cover, and loose husks. Rosie, Signature XR and Solstice received very high ratings for eating quality.

Most of the bicolor varieties in the trial had expected maturities between 76 and 78 days. Super Surprise was the earliest harvested in this group and stood out with high emergence, high early vigor, and long ears with very long shanks rated excellent for overall quality; plants were among the shortest in this group. Affection was notable for relatively long ears held more than 2 ft. above ground and excellent eating quality. BSS 37244 had high emergence, ears among the shortest in this maturity group with very short shanks, very good tip fill and fair to good husk cover, and a low percentage of fancy ears. BSS 8021 had high emergence, better early vigor than most others in this group, and ears among the narrowest for this maturity group with fairly long shanks, excellent tip fill, and acceptable husk cover; eating quality was rated lower due to pericarp toughness. Cumberland plants were the shortest in the trial and ear height and emergence were lower than most others; ears were wide and had excellent tip fill and very good husk cover and overall appearance was rated higher than the trial average. Enchanted plants were the tallest in this maturity group with ears more than 2 ft. above ground; ears were among the shortest in this maturity group with very short shanks, excellent tip fill, acceptable husk cover with loose husks, and this variety had the lowest percentage of fancy ears in the trial. Flagler had lower emergence than most others; ears had excellent tip fill and very good husk cover with overall appearance rated higher than the trial average and a very high rating for eating quality. HMX 59BS606 had high emergence, the shortest ears in this maturity group with excellent tip fill, very good husk cover, and overall appearance rated higher than the trial average. Kate had low emergence and produced long, wide ears about 1.5 ft. above the ground with the longest shanks in this maturity group, very good tip fill; acceptable husk cover, very good overall appearance, and very good eating quality.

The bicolors Apollo and EX 08767143 had expected maturities of 80-81 days. EX 08767143 was harvested first, and produced ears among the longest and narrowest in the trial with very good tip

fill and acceptable husk cover. Apollo plants were much taller and ears held much higher, but ears were about 1/2 inch shorter than those of EX 08767143, with long shanks, excellent tip fill and fair to good husk cover.

Among the four yellow varieties Candice was harvested the earliest (77-79 days) and Elle the latest (84 days). Candice had the highest emergence among the yellow varieties and produced 8-inch ears with good tip fill and fair husk cover; rating for overall appearance was low and the percentage of fancy ears was lower than for the other yellow varieties. Elle had the lowest emergence in the trial and produced ears similar in length to Candice but with better husk cover and long shanks. Eating quality of these two varieties was rated higher than the other two yellows. Jubilation plants were taller than Candice or Elle and were rated as very vigorous at harvest; ears were similar in size to Elle but with excellent tip fill and husk cover. SC 1336 plants were similar in height to Jubilation with ears were almost 2 ft. above ground; ears were the shortest ears among the yellow varieties (7.2 inches) with very good tip fill, excellent husk cover, and a higher percentage considered fancy than Elle or Candice.

Devotion II was the only white variety in the trial, harvested at 80-84 days. It had the second tallest plants in the trials with ears more than 2 ft. above ground. Ears averaged about 7.7 inches long with excellent tip fill and acceptable husk cover.

Evaluation of results presented in Tables 1 and 2 combined with results from other locations and years should aid producers in selecting varieties best suited to their operations.

Acknowledgments

G. Tragesser and Pinney-Purdue Agricultural Center staff managed field operations. B. Flint and M. Lawrence assisted with fieldwork and data entry; P. Landgrebe, J. Raby, J. Smiddy, and W. Warner assisted with harvest. The seed companies listed in Table 2 provided financial support and/or seed.

Literature Cited

Maynard, E.T. and E.A. Bluhm. 2018. Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana, 2017. pp. 105-114 in Maynard, E. B. Bergefurd, W. Guan and P. Langenhoven (eds.) Midwest Vegetable Trial Report for 2017. Purdue University, W. Lafayette, IN.

Maynard, E.T. and I. Calsoyas. 2016. Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana, 2015. pp. 89-98 in Maynard, E. (ed.) Midwest Vegetable Trial Report for 2015. Purdue University, W. Lafayette, IN.

USDA NASS. 2018. Indiana Agricultural Statistics 2017-2018. 7 Oct. 2019. https://www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Annual_Statistical_Bulletin/1718/18index.php

USDA NASS. 2019a. 2017 Census of Agriculture - State Data. https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_US_State_Level/usv1.pdf. URL verified 10/07/2019.

USDA NASS. 2019b. Indiana Crop Progress and Condition 2019. 24 Sept. 2019. http://www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Crop_Progress_&_Condition/index.php

Table 1. Emergence, final stand, vigor, plant height, tillering, and eating quality of supersweet sweet corn varieties in northern Indiana, 2019. [1]

Cultivar	Emergence *%*	Stand *plants/A*	Vigor[2] *Early*	Vigor[2] *Harvest*	Plant Ht. *ft*	Tillers[2]	Flavor[3]	Peri-carp[3]
Bicolor								
Affection (h)	87	18,973	4.0 ±0.0	5.0 ±0.0	5.6	2.0 ±0.0	E-VG	N
Anthem XR II (h)	82	18,198	3.7 ±0.3	5.3 ±0.3	4.9	1.3 ±0.3	G-E	S
Apollo	83	20,328	5.0 ±0.0	7.0 ±0.0	**6.8**	1.7 ±0.3	VG-G	S-VT
BSS 37244	**95**	20,328	4.0 ±0.0	6.7 ±0.9	5.3	1.3 ±0.3	G-E	T-S
BSS 8021	**99**	20,328	6.0 ±0.6	5.7 ±0.7	5.3	3.0 ±0.0	VG-G	T-VT
Cumberland	80	20,328	4.3 ±0.3	6.0 ±0.6	4.6	2.3 ±0.3	G-E	N-S
Enchanted (h)	84	18,586	3.0 ±0.6	5.3 ±0.7	5.7	1.0 ±0.0	G-E	VT-N
EX 08767143 (h)	85	19,166	4.3 ±0.3	7.0 ±1.0	5.6	1.7 ±0.3	G-VG	T-S
Flagler	78	20,328	4.0 ±0.6	7.0 ±0.6	5.3	1.0 ±0.0	VG-E	N-S
HMX 59BS606	**93**	20,328	3.7 ±0.3	6.3 ±0.7	4.9	2.7 ±0.3	M-VG	N-S
Kate	63	20,328	3.7 ±0.3	6.0 ±1.0	5.0	1.0 ±0.0	VG	N-T
Rosie	85	20,328	3.0 ±0.0	5.7 ±0.3	4.6	1.0 ±0.0	E-VG	N-S
Signature XR	**93**	20,328	6.0 ±0.6	5.7 ±1.5	5.2	1.3 ±0.3	VG	N-S
Solstice	83	20,328	5.0 ±0.0	3.0 ±0.0	4.9	1.3 ±0.3	E	N-S
Super Surprise	**103**	20,328	8.0 ±0.0	7.0 ±1.0	4.8	2.3 ±0.3	G-E	S
Yellow								
Candice	92	20,328	3.3 ±0.3	4.7 ±0.7	4.9	1.0 ±0.0	VG-E	T-N
Elle	54	20,328	3.0 ±0.0	5.0 ±0.0	*4.7*	1.7 ±0.3	VG	N-T
Jubilation (h)	71	17,037	3.7 ±0.3	8.0 ±0.0	5.4	1.0 ±0.0	G-VG	VT-T
SC 1336 (h)	83	18,198	3.0 ±0.0	7.3 ±0.7	5.4	1.3 ±0.3	G-VG	S-VT
White								
Devotion II (h)	86	19,360	4.0 ±0.6	6.7 ±0.3	5.9	1.7 ±0.3	G-VG	VT-T
Grand Mean	*84*	*19,689*	*4.2*	*6.0*	*5.2*	*1.6*	–	–
LSD .05[4]	*11*	–	–	–	*0.32*	–	–	–
R^2 vs DAP[5]	*.37*	–	*.34*	*NS*	*NS*	*NS*	–	–

[1]Means in bold do not differ significantly from the highest in that column. Emergence determined on 6/11/2019 is reported as percent of actual number of seeds planted for hand-planted varieties, and percent of estimated number of seeds planted for machine-planted varieties. Hand-planted cultivars indicated by (h) after name. Stand was determined on 6/19/2019, after thinning.

[2]Mean ± standard error. Vigor: 9=excellent; 5-average; 1=poor. Tillers: 5=most plants with tall tillers; 3=most plants have tillers, but not tall; 1=no or few tillers.

[3] Flavor: E=excellent; VG=very good; G=good; M=medium; P=poor. Pericarp: N=not tough; S=somewhat tough; T=tough; VT=very tough. Range of 3 replications; first listed represents rating closest to the most frequent category.

[4]Means differing by more than this amount are significantly different at $P \leq .05$ based on Fisher's Protected LSD. Means in bold font do not differ significantly from the highest in that column. Cultivars with means in italics were not included in AOV for that response. – AOV not performed.

[5]R-squared value for linear regression of response vs. mean of actual days to harvest, if regression significant at $P < .05$. NS=not significant. – Regression not performed

Table 2. Yield, ear size, ear height, and quality of supersweet sweet corn varieties in northern Indiana, 2019.

Cultivar	Seed Source[1]	Days to Harvest[2]		Yield of Marketable Ears		Ave Ear Weight	Ear Length	Ear Dia.	Shank Length	Ear Height	Husk Cover[3]	Husk Tight-ness[3]	Tip Fill[3]	Over-all[3]
		Pred.	*Actual*	*doz/A*	*ton/A*	*lb.*	*in.*	*in.*	*in.*	*in.*				
Bicolor														
Affection	RU	78	77	1,307	6.1	0.78	**7.97**	1.91	3.09	24.8	3.7 ±0.2	1.7 ±0.3	4.8 ±0.1	4.0 ±0.0
Anthem XR II	RU	74	76	1,307	6.4	0.82	7.75	1.92	3.93	20.7	3.9 ±0.3	1.8 ±0.2	4.9 ±0.1	6.7 ±0.3
Apollo	RI	81	79-80	1,517	6.7	0.74	7.27	1.96	**4.96**	**29.9**	2.8 ±0.1	2.3 ±0.2	5.0 ±0.0	6.3 ±0.3
BSS 37244	SYN	78	77-79	**1,452**	7.0	0.80	7.49	1.98	2.39	19.9	2.8 ±0.1	1.3 ±0.3	4.6 ±0.2	4.0 ±1.0
BSS 8021	SYN	78	76	**1,420**	6.1	0.72	**7.79**	1.79	**4.63**	20.6	3.4 ±0.3	2.2 ±0.4	5.0 ±0.0	5.3 ±0.7
Cumberland	HM	77	76	**1,549**	**7.9**	0.86	**7.79**	**2.04**	3.77	16.3	4.1 ±0.6	1.9 ±0.1	5.0 ±0.0	6.7 ±0.3
Enchanted	RU	78	77-79	1,323	5.5	0.70	7.53	1.93	2.83	24.2	3.6 ±0.1	1.0 ±0.0	5.0 ±0.0	3.3 ±0.3
EX 08767143	RU	80	76-79	**1,468**	**7.2**	0.82	**7.90**	1.85	3.11	24.2	3.2 ±0.4	2.1 ±0.4	4.2 ±0.3	5.7 ±0.9
Flagler	HM	76	77	**1,549**	**7.8**	0.84	7.57	1.89	3.81	23.6	4.1 ±0.1	2.4 ±0.1	5.0 ±0.0	7.0 ±0.0
HMX 59BS606	HM	77	77	**1,500**	**7.2**	0.80	7.39	1.96	3.81	20.9	4.1 ±0.1	1.9 ±0.1	5.0 ±0.0	7.0 ±0.6
Kate	HM	77	79-80	**1,484**	**8.5**	**0.95**	**7.97**	**2.07**	**5.32**	18.1	3.4 ±0.5	1.1 ±0.1	4.7 ±0.0	7.0 ±0.0
Rosie	HM	74	76	1,371	7.0	0.85	7.55	**2.14**	3.63	17.4	3.2 ±0.4	1.0 ±0.0	3.8 ±0.1	4.3 ±0.3
Signature XR	RI	72	76-77	**1,404**	6.8	0.81	7.28	2.01	2.37	17.3	3.9 ±0.5	1.0 ±0.0	4.6 ±0.1	3.7 ±0.9
Solstice	CR	70	71-73	1,387	5.9	0.71	**7.97**	1.87	2.86	14.2	3.9 ±0.4	1.0 ±0.0	4.6 ±0.3	3.0 ±0.0
Super Surprise	RI	76	71-76	**1,629**	**7.7**	0.79	**8.08**	1.86	*5.60*	18.2	4.2 ±0.6	2.1 ±0.1	5.0 ±0.0	8.0 ±0.0
Yellow														
Candice	HM	74	77-79	1,162	5.7	0.80	**7.97**	1.93	3.97	21.0	1.8 ±0.2	1.0 ±0.0	3.8 ±0.1	2.7 ±0.3
Elle	HM	78	84	1,275	6.6	0.86	**7.99**	2.01	**5.00**	20.6	3.6 ±0.2	1.0 ±0.0	3.6 ±0.1	4.0 ±0.6
Jubilation	RU	80	77-80	1,178	6.7	**0.95**	**7.87**	2.03	3.49	21.7	*5.0 ±0.0*	2.4 ±0.3	5.0 ±0.0	6.0 ±0.6
SC 1336	RU	81	79-80	1,339	6.5	0.80	7.19	1.99	4.10	23.6	*5.0 ±0.0*	2.3 ±0.3	4.7 ±0.2	6.0 ±0.6
White														
Devotion II	RU	80	80-84	**1,484**	**7.5**	0.85	7.69	2.02	4.56	26.9	3.0 ±0.2	2.1 ±0.5	4.9 ±0.1	5.0 ±1.2
Grand Mean			*78*	*1405*	*6.8*	*0.81*	*7.70*	*1.96*	*3.86*	*21.2*	*3.6*	*1.7*	*4.6*	*5.3*
LSD .05[4]				*231*	*1.4*	*0.084*	*0.30*	*0.10*	*0.72*	*2.07*	*1.0*	–	–	–
R^2 vs DAP[5]				*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*0.30*	*NS*	*NS*	*NS*	*NS*

[1]Seed Source: CR=Crookham; HM=HM Clause/Harris Moran; RI=Rispens; RU=Rupp; SYN=Syngenta.

[2]Days from planting to harvest. Predicted number is from seed supplier. Actual values are range for 3 replications.

[3]Mean ± standard error. Husk cover: 5=more than 2 inches cover; 4=1.25-2 inches; 3=0.75-1.25 inches; 2=less than 0.75 inch; 1=ear exposed. Husk tightness: 1=loose; 3=very tight. Tip fill: 5=kernels filled to tip of cob; 4=less than 0.5 inch unfilled; 3=0.5-1 inch unfilled; 2=more than 1 inch unfilled; 1=more than 2 inches unfilled. Overall: 1=worst. 9 =best.

[4]Means differing by more than this amount are significantly different at $P \leq .05$ based on Fisher's Protected LSD. Means in bold font do not differ significantly from the highest in that column. Cultivars with means in italics were not included in AOV for that response. NS=not significant. – =AOV not performed.

[5]R-squared value for linear regression of response vs. mean of actual days to harvest, if regression significant at $P<.05$. – =Regression not performed.

Appendix. Images of plants and ears for twenty sweet corn varieties in northern Indiana trial, 2019.

E. Maynard, Purdue University, emaynard@purdue.edu

Supersweet Sweet Corn Varieties, Northern Indiana, 2019.

E. Maynard, Purdue University, emaynard@purdue.edu

Supersweet Sweet Corn Varieties, Northern Indiana, 2019.

E. Maynard, Purdue University, emaynard@purdue.edu

Supersweet Sweet Corn Varieties, Northern Indiana, 2019.

E. Maynard, Purdue University, emaynard@purdue.edu

Supersweet Sweet Corn Varieties, Northern Indiana, 2019.

E. Maynard, Purdue University, emaynard@purdue.edu